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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,307	02/13/2004	Steffen Muller	033275-423	5516
21839	7590	05/24/2005		
BURNS DOANE SWECKER & MATHIS L L P				
POST OFFICE BOX 1404				
ALEXANDRIA, VA 22313-1404				
EXAMINER				
HITESHEW, FELISA CARLA				
ART UNIT		PAPER NUMBER		
1722				
DATE MAILED: 05/24/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/777,307	MULLER ET AL.	
	Examiner	Art Unit	
	Felisa C. Hiteshew	1722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                                                         |                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                                                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>see attached paper</u> . | 6) <input type="checkbox"/> Other: ____.                                                |

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Information Disclosure Statement***

The PTOL 1449 has been received, reviewed and considered.

***Claim Rejections - 35 USC § 112***

2. Claim 1 recites the limitation "...directionally solidified..." in line 2. There is insufficient antecedent basis for this limitation in the claim. Please insert the word --a—before the word “directionally” for proper antecedence.
3. Claim 1 recites the limitation "...solid state..." in line 3. There is insufficient antecedent basis for this limitation in the claim. Please insert the word - -a- - before the word “solid” for proper antecedence.
4. Claim 2 recites the limitation "...past/slurry application" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim. Please insert the word -- a – before the words “past/slurry” for proper antecedence.
5. Claim 7 recites the limitation "...undesirable contaminants..." in line 2. There is insufficient antecedent basis for this limitation in the claim. Please insert the word –an— before the word “undesirable” for proper antecedence.
6. In claim 7, the terminology “undesirable” is being considered vague and Indefinite. Use of terms such as “desirable” and “appropriate” when referring to certain parameters do not limit present disclosure to specific percentages recited. --Payet and Brummet v. Swidler and Wilson (POBdPatInter) 207 USPQ 168.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Biondo, et al in view of European 1 209 247 A1.

Biondo, et al teaches a method for the repair of nickel-based superalloy substrates by the application of a repair alloy wherein the repair alloy's composition is similar to or the same as the nickel-based superalloy composition except that the repair alloy additionally controls the specific levels of elemental grain boundary strengtheners and/or oxidation resistance enhancers. During casting and subsequent heat treatment, grain boundary strengtheners tend to diffuse into grain boundaries in the microstructure of an alloy, resulting in enhanced creep and rupture ductility. In cases in which the

repair alloy is applied to a single crystal or directionally solidified substrate article the requisite grain boundary strengthening elements may not be available from the substrate metal for diffusion into the applied repair alloy. Therefore, it is important to provide grain boundary strengthening elements in the repair alloys of the instant invention. In the case where the substrate alloy is a polycrystalline nickel-based superalloy, the repair alloy typically does not require additional amounts of grain boundary strengtheners since the grain boundary strengtheners are generally already present in the polycrystalline substrate alloy. In nickel-based repair alloys of the present invention, boron, hafnium and zirconium are utilized as grain boundary strengtheners (see column 2, lines 11-52). The build up repair alloys of the present invention are applied by low substrate heat input build-up processes including: laser welding, plasma transfer arc welding and low-pressure spray (see column 3, lines 1-14). Conventional processes may apply a protective coating layer. In some embodiments, the heat treatment of the protective coating may obviate the need for diffusion and/or stress relief heat treatment of the repair alloy after application to the substrate (see column 5, lines 30-40).

The difference being that Biondo, et al does not exactly teach chemical vapor deposition as the application to apply a surface diffusion process.

European 1 209 247 A1 teaches a chemical vapor deposition method for diffusion coating onto a superalloy substrate comprising the steps of applying a layer of platinum group metal to the superalloy substrate; passing an externally generated aluminum halide gas through an internal gas generator. It would have been obvious to

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one of ordinary skill in the art to modify and optimize the process parameter limitations, as taught by Biondo, et al, with the process parameter limitations, as taught by European 1 209 247 A1 in order to ensure proper orientation. The motivation being that excellent oxidation resistance can result for the repair alloys.

A reference is good not only for what it teaches by direct anticipation but also for what one of ordinary skill might reasonably infer from the teachings. In re Opprect 12 USPQ 2d 1235, 1236 (CAFC 1989); In re Bode 193 USPQ 12; In re Lamberti 192 USPQ 278; In re Bozek 163 USPQ 545, 549 (CCPA 1969); In re Van Mater 144 USPQ 421; In re Jacoby 135 USPQ 317; In re LeGrice 133 USPQ 365; In re Preda 159 USPQ 342 (CCPA 1968).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Felisa Hiteshew whose telephone number is (571) 272-1463. The examiner can normally be reached on Mondays through Thursdays from 5:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin Utech, can be reached on (571) 272-1137. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-1463.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through


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Private PAIR only. For more information about the PAIR system, see

<http://pair-direct.uspto.gov>. Should you have questions on access to the Private

PAIR system, contact the Electronic Business Center (EBC) at 866- 217-9197

(toll-free).

  
**FELISA HITESHEW**  
**PRIMARY EXAMINER**  
*AU 1722*